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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,498	05/25/2005	Marco Bosch	13156-00011-US	6482

23416 7590 03/28/2007  
CONNOLLY BOVE LODGE & HUTZ, LLP  
P O BOX 2207  
WILMINGTON, DE 19899

EXAMINER
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DAVIS, BRIAN J

ART UNIT	PAPER NUMBER
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1621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/536,498

Applicant(s)

BOSCH ET AL.

Examiner

Brian J. Davis

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,6 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-3,6 and 11-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/25/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restriction***

Applicant's election, with traverse, of the claim of Group II (claim 4) as the group elected to begin prosecution is acknowledged.

Applicant argues that "...the claims would appear to be part of an overlapping search." Applicant explicitly states that the connecting feature of the instant claims is "...a process for the preparation of alkyl amines which is conducted in a specific reactor, and the specific reactor, in which the mentioned process is conducted." However, applicant's reasoning is circular and does not point out any specific connecting feature, but merely points out the two inventions that were the basis of the original holding of lack of unity. In fact, there are claims (claims 6, 11, 12 and 13) which do not even require the limitation of any specific reactor – let alone the reactor of claim 4. For reasons of record, as outlined in the original requirement, the inventions lack the same or a corresponding technical feature under PCT Rule 13.2.

The examiner points out for completeness of the record that the corresponding international application was also deemed to lack unity of invention, and not in the simple two-group fashion of the outstanding national stage requirement, but in a four-group fashion. That is, the instant requirement is the least burdensome to applicant possible, merely restricting between a physical object and a set of chemical process.

Should the reactor be found allowable, the examiner would, of course, be amenable to rejoining any and all claims which require that specific reactor and all its

Art Unit: 1621

limitations in a gaseous processes for producing alkylamines from lower alcohols and ammonia.

The election/restriction requirement was proper for the reasons outlined above, as well as those of record in the original requirement, and was made merely in order to facilitate the reasonably complete and thorough search to which applicant is entitled and is hereby made FINAL.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1621

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2,660,598 and in view of US 6,294,633, cited by applicant in the IDS.

Applicant claims a reactor for the reaction of lower alkanols with ammonia in the gas phase, which comprises a shape-selective fixed-bed catalyst, which is present in a single contiguous fixed bed and through which run tubes which may contain coolant.

US 2,660,598 teaches a reactor for carrying out reactions in the gas phase using a fixed bed catalyst (column 1, line 1). The catalyst may be any suitable catalyst – depending on what reaction is being run in the reactor (column 2, line 38). The reaction zone contains a heat exchanger, which extends through the space occupied by the catalyst and through which may be passed a suitable cooling fluid (column 4, line 31).

US 6,294,633 teaches a shape-selective catalyst (mordenite) for the production of methylamines from methanol and ammonia (abstract).

Applicant distinguishes over the prior art in that a particular catalyst class is specified: shape-selective catalysts. However, as the prior art makes explicitly clear, the prior art reactor and its configuration are not limited to a particular catalyst, and the operator will choose the appropriate catalyst for the particular gaseous reaction being run. It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to choose a shape-selective catalyst for the gaseous reaction of lower

Art Unit: 1621

alkanols and ammonia. One would have chosen such a catalyst for the reaction because they are generally known in the art to be able to favorably influence the product composition (i.e. limit the production of trialkyl product), as evidenced, for instance, by US 6,294,633 B1.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Davis whose telephone number is 571-272-0638. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/536,498

Page 6

Art Unit: 1621

 **BRIAN DAVIS**  
**PRIMARY EXAMINER**

Brian J. Davis  
March 23, 2007